

# Accelerating Infrastructure Workloads with the New Intel® IPU Adapter E2100

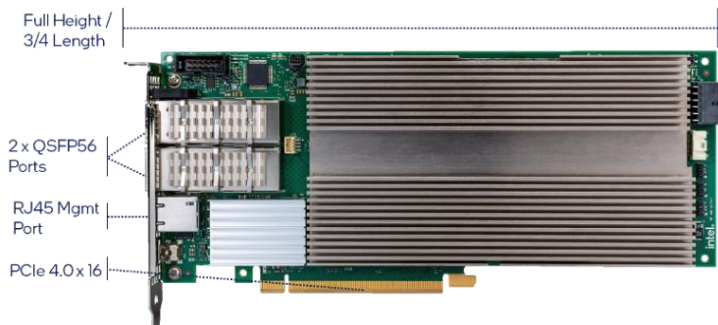
*Thomas Scheibe, Vice President of Product and Business Development - NEX Cloud Connectivity Group*

For some time, you've heard about the benefits and improvements hyperscalers are experiencing when deploying the Intel® Infrastructure Processing Unit (Intel® IPU) in their data centers. As Intel shared this news, we gave glimpses into the future of data centers beyond hyperscalers.

Today, Intel is taking Intel® IPU beyond leading Cloud Service Providers (CSPs) to the enterprise with its newest product - the [Intel® IPU Adapter E2100](#). The Intel IPU Adapter is a standard PCIe adapter, which makes it easier for customers to deploy compared to an on motherboard design. Additionally, Intel® IPU provides vital benefits such as enhanced network security, accelerated AI workloads, rapid packet inspection, infrastructure optimization, and virtual storage enablement for maximum data center flexibility.

Furthermore, we've demonstrated a robust commitment to open-source infrastructure software by promoting collaboration and innovation within the development community. Intel IPU offers a wealth of developer-friendly features within its comprehensive software stack. The IPU software stack includes complete programmability through the P4 programming language, storage offload support through industry standard SPDK plugins, packet I/O support through both standard kernel interfaces and DPDK, and seamless integration with Red Hat OpenShift.

With the new Intel® IPU Adapter E2100, more customers have a path to accelerate and optimize their data centers. We are excited to be partnering with Dell Technologies who has integrated the IPU with their PowerEdge servers for immediate availability.



*"Dell PowerEdge servers drive advancements in data center efficiency by accelerating infrastructure workloads and unlocking versatility and flexibility. Collaborating with Intel positions us at forefront of innovation."*

*– David Schmidt, Senior Director, PowerEdge Product Management, Dell Technologies.*

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## Revolutionizing Data Center Operations with Intel® IPU

### Unleashing the Potential of Intel® IPU with Red Hat OpenShift

Our solution with Red Hat offers a powerful, flexible, and cost-effective solution for organizations looking to optimize their infrastructure for cloud and edge computing.

By seamlessly integrating the Intel IPU with OpenShift, accelerating network functions, and enabling flexible service chaining, this joint solution from Intel and Red Hat unlocks unprecedented levels of performance and scalability, making it an ideal choice for organizations looking to stay competitive in today's rapidly changing technology landscape. [Learn More](#)

*"Introducing wider availability, the Intel Infrastructure Processing Unit (IPU) is now seamlessly integrated into OpenShift Container Platform (OCP) as a developer preview in OCP 4.16, with all drivers running natively out-of-the-box with RHEL 9.4 and MicroShift 4.16, which are both supported on the IPU, and is ready for any custom network function workload.*

*We, as a result, have opened a wide array of use cases, particularly in the service chaining of network functions, which can unlock unprecedented levels of performance and scalability in cloud and edge computing."*

*--Rashid Khan, Senior Director, Core Platform & Korry Nguyen, Software Development Manager, Networking*

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### Optimizing OpenVINO™ toolkit Model Deployments with F5 NGINX Plus

Our collaboration with F5 has led to a solution that enables developers to deploy AI models independently and securely, maximizing system performance while maintaining confidentiality and integrity.

This innovative solution integrates F5® NGINX Plus® with Intel® IPU, providing high performance and security for OpenVINO™ model servers. Intel IPU establish a security air gap and elevate performance to meet the demands of edge computing, content delivery networks, and microservices architectures, by offloading NGINX Plus workloads from the host CPU. [Learn More](#)

*"IPUs show immense promise in solving some extremely challenging problems related to the distribution and protection of Artificial Intelligence workloads. Very few practical solutions exist to simultaneously defend API traffic to AI Models while also providing hardware-based protection of models distributed to inferencing locations.*

*Intel IPU combined with Intel's OpenVINO™ model server security solutions are extremely effective when combined with F5's application security tools, and we're proud to be part of what is quickly becoming a market-leading solution for secure AI inferencing."*

*--Joel Moses, CTO, Systems and Platforms, F5*

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## Accelerating Deep Packet Inspection Workloads with Leidos

We've developed a joint solution with Leidos that enables developers to accelerate deep packet inspection workloads and enhance security feature for demanding applications.

This solution illustrates the advantages of offloading deep packet inspection tasks to Intel IPU compared to processing the same task on the host CPU. The Intel IPU offers accelerated packet processing, enhanced network performance, and robust security features. Overall, this solution can improve network performance and load balancing with QoS, enhance security features and performance, and can add versatility for the most demanding applications. [Learn More](#)

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## Naver Proof of Concept

*"The 200GbE Intel® IPU has proven to exceed our expectations where it demonstrated accelerated performance and flexibility. The IPU features such as VxLAN, IPSec, control plane and NAT make it a perfect fit for our edge systems. With the robust features and versatility of Intel IPUs, our partnership with Intel has unlocked new possibilities, empowering us to elevate our capabilities with our edge cloud systems."*

*--JeongHwa Jeong, Leader, Cloud Advanced Technology Team*

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Be sure to stop by our Intel booth while at Dell Tech World in May. There you will be able to interact and learn about the new Intel® IPU Adapter E2100 as well as the future new family of Ethernet E830 Controllers and Network Adapters products coming later this year. These network adapters continue to broaden Intel's enablement of AI infrastructure solutions.

Are you ready to unlock the power of Intel IPU Adapters for infrastructure workloads? Contact your local Dell representative for more details and visit [intel.com/ipu](https://www.intel.com/ipu) today to learn how the Intel IPU Adapter E2100 is the optimal choice for infrastructure processing.



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Your costs and results may vary.

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